

# Bobcat Population Analyses 2005

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## **Abstract**

Age and reproductive data obtained from 2,955 bobcats harvested during the 1983-2003 seasons were used to evaluate Wisconsin's bobcat population. Analysis suggested that fall population size has increased from about 1,500 to about 3,100 since the early 1990s.

## **Methods**

Successful hunters and trappers were required to register their bobcat at a DNR station and turn in the carcass at that time. The sex, date of harvest, and county of harvest were recorded for each carcass. A canine tooth was extracted and sent to Matson's Lab, Milltown, MT for processing and aging (determined by counting annuli in the cementum). Ovaries and uteri were removed from all female carcasses. Uteri were examined for the presence/numbers of placental scars and ovaries were examined for corpora lutea. Bobcat population estimates and trends were determined by incorporating data on harvest size and composition and reproductive rates into Minnesota's Furbearer Population Model. Population trends simulated by the model were compared to data from the Winter Furbearer Track Count survey.

## **Results**

Biological samples were obtained from 294 (168 males, 125 females, 1 unknown) bobcats harvested during the 2004 season. Age information from those carcasses is not yet available. Data from the carcasses collected since 1983 are summarized in Tables 1 and 2.

Kits averaged 25% of the bobcats harvested during 1983-2003, yearlings 23%, and adults 52% (Table 1). Adults ( $\geq 2.5$  year old) comprised an average of 44% of the harvest during 1983-93, 54% during 1994-98, and 65% during 1999-2003. Examination of 963 female reproductive tracts showed mean pregnancy rates of 40% for yearlings and 76% for adults. The mean number of placental scars per pregnancy was 2.8 (Table 2).

Harvest, age, and reproduction data were incorporated into the Minnesota Furbearer Population Model. Analyses suggest that the fall bobcat population in northern Wisconsin fluctuated between 1,500 and 1,900 during the 1980s and early 1990s (Fig. 1). Since 1993, the population has increased consistently due to conservative harvests. Winter track count surveys (Dhuey 2004) generally support population trends suggested by the model. Three-year mean numbers of bobcat tracks observed per transect have increased substantially since 1993.

The fall population prediction from the model for the portion of Wisconsin north of State Highway 64 for 2005 is approximately 3,100. The WDNR Furbearer Advisory Committee recommended a harvest of 400 bobcats for the 2005 season. That harvest level should stabilize the bobcat population at its current level.

## **Literature Cited**

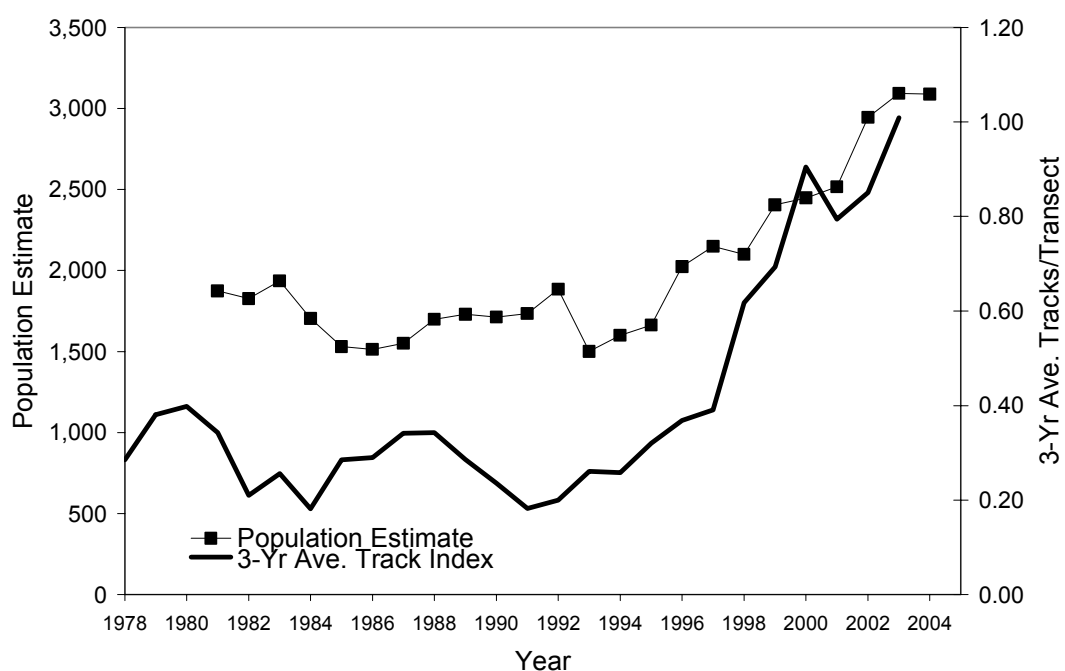
Dhuey, B. 2004. Winter track counts, 1977-2004. IN: The Wisconsin Wildlife Surveys Report. August 2004. Document on file at the Wisconsin Dept. of Natural Resources, Bureau of Integrated Science Services, Monona, WI 53716.

**Table 1.** *Ages of bobcats harvested in Wisconsin, 1983-2003.*

| Year  | No.<br>Aged | Percent in age class |      |      |      |      |      |      |
|-------|-------------|----------------------|------|------|------|------|------|------|
|       |             | Kits                 | 1    | 2    | 3    | 4    | 5    | 6+   |
| 1983  | 84          | 23.8                 | 31.0 | 14.3 | 13.1 | 6.0  | 3.6  | 8.3  |
| 1984  | 97          | 25.8                 | 25.8 | 10.3 | 13.4 | 13.4 | 6.2  | 5.2  |
| 1985  | 168         | 32.1                 | 30.4 | 10.7 | 7.1  | 5.4  | 7.1  | 7.1  |
| 1986  | 158         | 27.9                 | 27.9 | 11.4 | 7.0  | 8.2  | 4.4  | 13.3 |
| 1987  | 221         | 31.7                 | 26.7 | 16.7 | 10.4 | 3.6  | 2.3  | 8.6  |
| 1988  | 127         | 34.7                 | 30.7 | 10.2 | 8.7  | 4.7  | 3.2  | 7.9  |
| 1989  | 103         | 23.3                 | 26.2 | 17.5 | 12.6 | 9.7  | 3.9  | 6.8  |
| 1990  | 86          | 44.2                 | 23.3 | 15.1 | 7.0  | 3.5  | 2.3  | 4.6  |
| 1991  | 57          | 26.3                 | 28.1 | 24.6 | 12.3 | 7.0  | 0.0  | 1.8  |
| 1992  | 181         | 21.6                 | 28.2 | 16.6 | 9.9  | 9.4  | 6.6  | 7.7  |
| 1993  | 129         | 23.3                 | 23.3 | 17.8 | 19.4 | 3.9  | 7.8  | 4.7  |
| 1994  | 153         | 23.5                 | 24.8 | 15.7 | 9.8  | 7.8  | 6.5  | 11.8 |
| 1995  | 77          | 23.4                 | 19.5 | 13.0 | 13.0 | 6.5  | 10.4 | 14.3 |
| 1996  | 109         | 26.6                 | 21.1 | 18.3 | 9.2  | 11.0 | 2.8  | 11.0 |
| 1997  | 139         | 23.0                 | 18.7 | 22.3 | 10.8 | 10.1 | 5.0  | 10.1 |
| 1998  | 169         | 26.6                 | 23.1 | 17.2 | 10.1 | 8.9  | 2.4  | 11.8 |
| 1999  | 140         | 28.6                 | 15.0 | 16.4 | 13.6 | 10.0 | 7.9  | 8.6  |
| 2000  | 227         | 20.7                 | 18.1 | 15.9 | 14.5 | 12.3 | 6.2  | 12.3 |
| 2001  | 111         | 15.3                 | 17.1 | 26.1 | 23.4 | 7.2  | 3.6  | 7.2  |
| 2002  | 162         | 14.2                 | 17.9 | 20.4 | 16.7 | 16.0 | 7.4  | 7.4  |
| 2003  | 257         | 17.5                 | 12.8 | 16.0 | 17.9 | 16.0 | 8.6  | 11.3 |
| Total | 2,955       | 24.9                 | 22.7 | 16.3 | 12.5 | 9.1  | 5.4  | 9.1  |

**Table 2.** Reproductive rates of female bobcats harvested in Wisconsin, 1983-2003.

| Year  | No. of Carcasses | Pregnancy rates (%) |        | Mean number placental scars/preg. |
|-------|------------------|---------------------|--------|-----------------------------------|
|       |                  | Yearlings           | Adults |                                   |
| 1983  | 39               | 25                  | 77     | 2.3                               |
| 1984  | 31               | 11                  | 59     | 2.6                               |
| 1985  | 60               | 31                  | 56     | 2.2                               |
| 1986  | 49               | 33                  | 70     | 2.6                               |
| 1987  | 62               | 40                  | 79     | 2.7                               |
| 1988  | 35               | 72                  | 94     | 3.1                               |
| 1989  | 39               | 57                  | 70     | 2.9                               |
| 1990  | 23               | 27                  | 70     | 3.1                               |
| 1991  | 18               | 20                  | 67     | 3.0                               |
| 1992  | 58               | 38                  | 71     | 2.4                               |
| 1993  | 47               | 14                  | 40     | 1.9                               |
| 1994  | 40               | 27                  | 75     | 2.8                               |
| 1995  | 24               | 63                  | 69     | 2.6                               |
| 1996  | 35               | 71                  | 92     | 2.8                               |
| 1997  | 54               | 42                  | 87     | 3.2                               |
| 1998  | 50               | 29                  | 75     | 2.7                               |
| 1999  | 39               | 57                  | 91     | 3.1                               |
| 2000  | 73               | 44                  | 72     | 3.3                               |
| 2001  | 35               | 63                  | 69     | 2.9                               |
| 2002  | 65               | 54                  | 90     | 3.0                               |
| 2003  | 87               | 41                  | 86     | 2.6                               |
| Total | 963              | 40                  | 76     | 2.8                               |



**Figure 1.** Prehunt bobcat population estimates and 3-year mean numbers of bobcat tracks observed per transect in winter track surveys, 1978-2004.